

REMARKS

Claims 1-40 are currently pending in the subject application and are presently under consideration. Claims 1-40 have been amended as shown at pages 2-10 of the Reply. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-28, 33-35, 37-38, and 40 Under 35 U.S.C. §103(a)

Claims 1-28, 33-35, 37-38, and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wolff *et al.* (U.S. Patent No. 2003/0120714). Withdrawal of the rejection is requested for at least the following reason. Wolff *et al.* does not expressly or inherently describe each and every aspect set forth in the subject claims.

[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations. *See MPEP §706.02(j).* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *See In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).*

Applicant's claimed subject matter relates to industrial control systems, and more particularly to the communication and display of data in a graphical format that can facilitate the control and graphical representation of equipment obtained from a plurality of devices. Furthermore, the claimed invention renders data of similar Human Machine Interfaces (HMIs) for a plurality of disparate platforms to make efficient use of hardware and software capabilities of the devices. To this end, independent claim 1 (and similarly independent claims 18, 33, 35, 37, and 38) has been amended to recite a component that *determines properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data and rendering the data based at least in part on the properties, limitations, or software plug-ins of the device.* An advantage that the claimed invention offers is an HMI data rendering that utilizes available resources optimally. (*See pg. 11, ll. 11-25.*) The claimed invention first examines the properties (known attributes of a platform), limitations, or software plug-ins that the HMI has to work with. For example, if a device has a monitor capable of only outputting a low resolution, and only a small amount of memory available to process data, the HMI renders the data in a

format appropriate for display on a small screen, perhaps in black and white or with a simpler interface if the display is so limited. Alternatively, if a greater amount of processing power is available, along with a high resolution screen, ample memory, software plug-ins, and a choice of scripting languages, then the HMI will utilize the available resources to provide a best fit rendering. Therefore, the claimed invention provides the advantage of rendering data suitably, transforming data appropriately according to hardware as well as software accessibility.

Additionally, the claimed invention will transform a 3-dimensional software object into a 2-dimensional object when the device analyzer recognizes the limitations of less capable devices will cause a rendering to not run correctly due to limited memory, display capability, and so forth. To this end, independent claim 24 (and similarly independent claim 40) has been amended to recite *converting 3-dimensional data into 2-dimensional data (or vice versa) based at least in part on properties, limitations, or software plug-ins of the device*. Therefore, data rendering designs for HMIs may work for particular devices, such as a fully upgraded desktop PC, but not for less capable devices. (See pg. 12, ll. 23-30). The advantage that the claimed aspect offers is that it provides a mechanism for conversion between 2-dimensional and 3-dimensional data renderings, utilizing whichever is appropriate, based on computing resources (including both hardware and software considerations). Wolff *et al.* does not disclose or suggest at least these novel aspects.

Wolff *et al.* relates to machine vision systems, and more particularly, to human machine interfaces (HMIs) for training, controlling, and monitoring machine vision system sensors and methods for installing and configuring such interfaces. The cited reference discloses receipt of data in a desired portable device compatible format (See paragraph 17, ll. 16-18) and utilizing an image compression technique to enhance the detail of an image to an appropriate gray or contrast level (See paragraph 52, ll. 22-30). However, Wolff *et al.* does not disclose *determining properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data and rendering the data based at least in part on the properties, limitations, or software plug-ins of the device*. Therefore, the cited reference does not provide the advantage of recognizing when limitations to hardware apply or enhancements are available for use and incorporating them into the data rendering. Furthermore, the cited reference is silent with regard to *converting 3-dimensional data into 2-dimensional data (or vice versa) based at least in part on properties, limitations, or software plug-ins of the device*, eliminating the advantage of

rendering in 2-dimensions when appropriate, and utilizing 3-dimensional data transformation based on resources and limitations. In view of the foregoing, it is readily apparent that Wolff *et al.* does not disclose or suggest all claimed aspects, and therefore it is respectfully submitted that this rejection should be withdrawn.

II. Rejection of Claims 29-32, 36, and 39 Under 35 U.S.C. §103(a)

Claims 29-32, 36, and 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wolff *et al.* (U.S. Patent No. 2003/0120714) in view of Shteyn (U.S. Patent No. 6,199,136). Withdrawal of the rejection is requested for at least the following reason. Neither Wolff *et al.* or Shteyn, individually or in combination, teach or suggest each and every element set forth in the subject amended claims. In particular, independent claim 29 has been amended to recite *determining properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data and rendering the data based at least in part on the properties, limitations, or software plug-ins of the device*. As discussed *supra*, the claimed invention offers the advantage of rendering data for optimal display based on availability of resources or existence of limitations. (*See* pg. 11, ll. 11-25). Therefore, the claimed invention provides the advantage of rendering data suitably, transforming data appropriately according to hardware as well as software accessibility. Neither Wolff *et al.* or Shteyn disclose or suggest at least these novel aspects.

The claimed invention also offers the ability to map data path information to process points on a physical device that allows the user to make changes to the process point related to each physical device. To this end, independent claim 36 (and similarly independent claim 39) has been amended to recite *mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI)*. For example, if properly formatted data is located at the HMI generator, and data representing a process point, the path to the process point location can change after the data has been transferred to the device. Therefore, the claimed invention provides the advantage of enabling changes to a data path to be tracked, mitigating loss of data connectivity. (*See* pg. 10, ll. 1-15). Neither Wolff *et al.* or Shteyn disclose or suggest at least these novel aspects.

Shteyn relates to a home automation system for controlling audio/video equipment in a home entertainment system. The cited reference discloses controlling devices through “abstract

representations,” having message sets for each class of device, *e.g.* TV receivers, VCRs, *etc.*, modeling home devices as OLE Automation objects, and a data-driven interaction controller that renders a GUI interface on an appliances display, where the displays can vary from graphical to text-only. However, unlike the claimed invention, Shteyn is silent with regard to *mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI)*, and thus fails to provide the advantage of enabling changes to a data path to be tracked, mitigating loss of data connectivity. In view of the foregoing, Shteyn does not make up for the aforementioned deficiencies of Wolff *et al.* with respect to independent claims 29, 36, and 39 (from which claims 30-32 depend). Accordingly, it is respectfully submitted that this rejection be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP314US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,
AMIN, TUROCY & CALVIN, LLP

/Himanshu S. Amin/
Himanshu S. Amin
Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731